

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

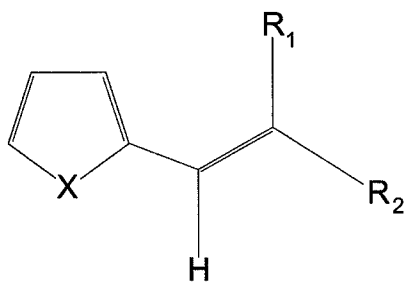
Claims 1-26: (canceled)

Claim 27 (currently amended): A controlled radical grafting process of a polyolefin, derived from monomeric units comprising  $\alpha$ -olefins, comprising the reaction of the polyolefin and at least one radical reaction initiator with a grafting system which comprises at least one grafting compound having an electron donator heterocyclic aromatic ring conjugated to at least one  $-\text{HC}=\text{CR}_1\text{R}_2$  group in which at least one of  $\text{R}_1$  and  $\text{R}_2$  is an electron acceptor functional group, wherein said grafting system further includes at least one unsaturated compound which has at least one group which ~~is able to react~~ reacts with an aminic and/or carboxylic and/or hydroxylic functionality and is chosen from acrylic and methacrylic compounds, maleic anhydride, derivatives ester of maleic anhydride, and their mixtures.

Claim 28 (previously presented): A process according to claim 27, in which  $\text{R}_1$  and  $\text{R}_2$  are chosen independently of one another from  $-\text{H}$ ,  $-\text{COOR}$ ,  $-\text{COOH}$ ,  $-\text{COR}$ ,  $-\text{COH}$ ,  $-\text{CN}$ ,  $-\text{CONH}_2$ ,  $-\text{COO}(\text{CH}_2)_n\text{CF}_3$  and  $-\text{COO}(\text{CH}_2)_n\text{CN}$ , where  $\text{R}$  is a linear or branched aliphatic or aromatic linear alkyl group and  $n$  is a whole number lying between 1 and 20, with the proviso that  $\text{R}_1$  and  $\text{R}_2$  are not both  $-\text{H}$ .

Claim 29 (currently amended): A process according to claim 27, in which the said heterocyclic ring is a ~~possibly~~-substituted furanic thiofenic, or pyrrolic ring.

Claim 30 (previously presented): A process according to claim 27, in which the said grafting system comprises a compound of formula:

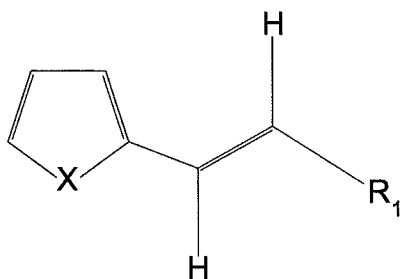


where X is chosen from O, S and N, and R<sub>1</sub> and R<sub>2</sub> are the same or different functional groups chosen from -COOR, -COOH, -COR, -COH, -CN, -CONH<sub>2</sub>, -COO(CH<sub>2</sub>)<sub>n</sub>CF<sub>3</sub> and -COO(CH<sub>2</sub>)<sub>n</sub>CN where R is an aliphatic or aromatic linear or branched alkyl group and n is a whole number lying between 1 and 20.

Claim 31 (previously presented): A process according to claim 30, in which the said groups R<sub>1</sub> and R<sub>2</sub> are the same of the type -COOR, where R is -CH<sub>2</sub>CH<sub>3</sub>.

Claim 32 (previously presented): A process according to claim 30, in which the said group R<sub>1</sub> is -CN and the group R<sub>2</sub> is -COOR, where R is -CH<sub>2</sub>CH<sub>3</sub>.

Claim 33 (previously presented): A process according to claim 27, in which the said grafting system comprises a compound of formula:



where X is chosen from O, S and N, and R<sub>1</sub> is a functional group chosen from -COOR, za-COOH, -COR, -COH, -CN, -CONH<sub>2</sub>, -COO (CH<sub>2</sub>)<sub>n</sub>CF<sub>3</sub> and -COO(CH<sub>2</sub>)<sub>n</sub>CN where R is a linear or branched aliphatic or aromatic linear alkyl group and n is a whole number lying between 1 and 20.

Claim 34 (previously presented): A process according to claim 33, in which the said group R<sub>1</sub> is -COOR, where R is -CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>.

Claim 35 (previously presented): A process according to claim 27, in which the said polyolefin is chosen from the group consisting of homopolymers and copolymers of  $\alpha$ -olefins and their mixtures.

Claim 36 (previously presented): A process according to claim 27, in which the said radical initiator has a half life lying between 10 and 200 seconds in the temperature range lying between 120 and 240°C.

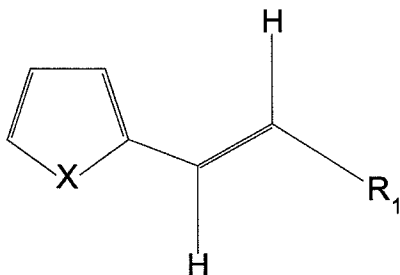
Claim 37 (previously presented): A process according to claim 27, in which the said radical initiator is an organic peroxide such as a dialkyl peroxide, a diacyl peroxide, a peroxy ester or a peroxyacetal.

Claim 38 (previously presented): A process according to claim 27 in which the said radical initiator is chosen from the group consisting of dicumyl peroxide, di-tert-butyl peroxypropylbenzene, 2,5 dimethyl 2,5 di-tert-butyl peroxy-hexane, 3,6,9-triethyl-3,6,9 trimethyl-1,4,7 – triperoxynonan and their mixtures.

Claim 39 (previously presented): A process according to claim 27, in which 0.5 to 30% by weight of the said grafting system and from 0.05 to 5 parts by weight of the said radical initiator are mixed with 100 parts by weight of the said polyolefin.

Claim 40 (previously presented): A process according to claim 27, in which 100 parts by weight of the said polyolefin are mixed with 1 – 25 parts by weight of an unsaturated compound chosen from acrylic and methacrylic compounds, maleic anhydride, ester derivatives

of maleic anhydride and their mixtures, 0.05 – 5 parts by weight of a radical initiator of organic peroxide type and 0.1 – 5 parts by weight of a compound of formula



where X can be chosen from O, S and N, and R<sub>1</sub> is a functional group chosen from COOR, -COOH, -COR, -COH, -CN, -CONH<sub>2</sub>, -COO (CH<sub>2</sub>)<sub>n</sub>CF<sub>3</sub> and -COO(CH<sub>2</sub>)<sub>n</sub>CN, where R is a linear or branched aliphatic or aromatic alkyl group and n is a whole number lying between 1 and 20.

Claim 41 (previously presented): A process according to claim 39, in which 100 parts by weight of the said polyolefin are further mixed with 0.01-1 parts by weight of a radical reaction inhibitor.

Claim 42 (previously presented): A process according to claim 41, in which the said radical reaction inhibitor is chosen from the group consisting of 3,5-di-tert-butyl-4 hydroxytoluene, pentaerythrityl-tetrakis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)-propionate] and actodecyl 3, 5-di-(tert)-butyl-4 hydroxyhydrocinnamate.

Claim 43 (previously presented): A process according to claim 27, performed in a mixer provided with a rotor.

Claim 44 (previously presented): A process according to claim 43, in which the said grafting system is introduced into the mixer after the polyolefin.

Claim 45 (previously presented): A process according to claim 44, in which the said grafting system is introduced into the mixer once the torque transmitted by the rotor member is stabilized.

Claim 46 (previously presented): A process according to claim 43, in which the said radical initiator is introduced subsequently to the grafting system.

Claim 47 (previously presented): A process according to claim 43, in which the rotor member turns with an angular velocity of 20 – 70 rpm.

Claim 48 (previously presented): A process according to any of claim 43, in which the residence time of the reagents in the mixer lies between 5 and 30 minutes.

Claim 49 (previously presented): A process according to claim 43, in which the temperature of the reagents lies between 120 and 230°C.

Claim 50 (previously presented): A process according to claim 43, performed continuously by means of a twin screw extruder.

Claim 51 (new): A process according to claim 27, in which the said heterocyclic ring is a possibly substituted furanic thiofenic, or pyrrolic ring which is unsubstituted or substituted, respectively.